

REMARKS

This amendment responds to the office action mailed June 30, 2004. In the office action the Examiner:

- allowed claims 15-17 and 20-28;
- objected to the limitation of claim 10, which was not shown in the drawings;
- rejected claims 1 and 18-19 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention;
- rejected claim 10 under 35 U.S.C. 112, first paragraph, for failing to comply with enablement requirement;
- rejected claims 1, 5-8 and 11-14 under 35 U.S.C. 102(e) as being anticipated by Holt (US 6,608,593); and
- rejected claims 2-4 and 9 under 35 U.S.C. 103(a) as being unpatentable over Holt (US 6,608,593).

After entry of this amendment, the pending claims are: claims 1-29.

Specification Amendments

The specification has been amended at the end of paragraph 45 on p. 17 to refer to a second optional antenna in the amended replacement Fig. 5. The second antenna is referred to in claim 10 as originally filed:

wherein the transmitting includes **transmitting using at least two antennas driven by substantially identical signals having a phase difference**, the phase difference controlling the range of angles of the null.

and does not, therefore, constitute new matter.

Drawing Amendments

A replacement figure for Fig. 5 is include in this reply. This replacement figure includes an optional second antenna. Support for this amendment is found in claim 10 as originally filed. This amendment, therefore, does not constitute new matter.

Claims Amendments

Claim 1 has been amended to add the clarification that the reflected pulse has substantially the same polarization as the transmitted pulse, while the return signal includes components not having that polarization.

Support for this amendment is found in paragraphs 0025 and 0033 (last sentence), as well as numerous other portions of the specification. As a consequence, this claim amendment does not constitute new matter.

New claim 29 is a system claim based in part on amended claim 1.

Detailed Response, Drawings

The replacement figure for Fig. 5 includes an optional second antenna element as described in the limitation of claim 10. This amendment, therefore, does not constitute new matter. As described above, the specification has been amended to refer to the optional second antenna. Removal of this ground for objection is requested.

Detailed Response 35 U.S.C. 112, Second Paragraph Rejection

The term “preferentially receiving” is not indefinite in the context of RF signal receivers. Configuring antennae and receivers to preferentially receive a particular class of electromagnetic signals, such as signals having a particular polarization, signals having a particular range of frequencies, or signals arriving from a particular direction or path, are well known in the art. A “Google” search of

“preferentially (receive or receiving) (antenna or receiver)” produced 406 hits, and a quick check revealed that at least four of the first 10 hits mention or discuss preferentially receiving a particular signal or type of signal. Thus, the term “preferentially receive” is not indefinite in the context of the claimed invention.

Detailed Response 35 U.S.C. 112, first Paragraph Rejection

Support for the limitation of claim 10 is found in the specification on p. 17, lines 13-16. An amended replacement figure for Fig. 5 is included in this reply. The amended figure includes an optional second antenna. Removal of this ground for rejection is requested.

Detailed Response 35 U.S.C. 102

Claim 1 requires that the device preferentially receive signals having the same particular polarization and the transmitted pulse, and that the return pulse reflected by landmark have that same polarization. While Holt mentions the word “polarization” in passing, as one of many ways in which a signal could be modified, Holt fails to disclose a system or method of transmitting a pulse having a particular polarization and then preferentially receiving, within a return signal, a return pulse having substantially the same polarization as the transmitted pulse. Removal of this ground for rejection is requested.

Regarding claim 5, the Applicants note that Holt is silent with respect to detecting Doppler shifts and using such shifts to determine an angle. There is no disclosure or enablement in Holt in this regard. The Applicants note the requirements of MPEP 2112 that the Examiner must provide rationale or evidence tending to show inherency. Removal of this ground for rejection is requested.

Detailed Response 35 U.S.C. 103(a)

The Examiner's section 103 rejection of claims 2-4 and 9 is based entirely on Holt.

In light of the amendment of claim 1 discussed previously, the dependent claims from claim 1 are allowable over the prior art of record. Removal of this ground for rejection is requested.

The method of claims 2-4, the present application is directed to a local positioning system using polarization to distinguish reflections from man-made landmarks from reflections from other objects. Holt is directed to position determination in a multi-path environment. Holt discloses the possibility of transmitting a polarized signal (col. 8, line 40; col. 11, line 6; and col. 11, lines 13-14) but is silent as to the consequences of reflection from natural or man-made landmarks for such a polarization. Furthermore, by the Examiner's admission, Holt is silent to the advantages of and the use of circular polarization in the local positioning system. As such, there is no motivation provided in Holt for the combination made by the Examiner in rejecting claims 2-4. The combination is not, therefore, *prima facie* obvious. Removal of this ground for rejection is requested.

Furthermore, regarding the rejection of claim 9, Holt discloses the use of combinations of receive signals to generate a null for purpose of eliminating multi-path signals (col. 11, lines 11-13 and col. 18, lines 47-55). By the Examiner's admission, Holt is silent to the generation of a null in a transmission beam pattern that is sufficiently narrow to enable the local positioning system of the present invention. Furthermore, claim 9 depends from claim 8, which requires transmitting a pulse multiple times, each with a null over a respective range of angles – thereby enabling the method to associate a range of angles with each range candidate. Since there is no motivation provided in Holt for this combination, and since Holt does not contain enablement necessary to achieve the limitation of claims 8 and 9, the combination is not *prima facie* obvious. Removal of this ground for rejection is requested.

CONCLUSION

In light of the above amendments and remarks, the Applicant respectfully requests that the Examiner reconsider this application with a view towards allowance. The Examiner is invited to call the undersigned attorney if a telephone call could help resolve any remaining items.

Respectfully submitted,

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REPLACEMENT FIGURE 5